

REMARKS

Claims 1-34 are currently pending for the Examiner's consideration, with claims 1, 11, 13, 18, 29, and 33 being the independent claims. As explained more fully below, Applicants respectfully submit that the present rejections cannot properly be maintained because the present invention was actually reduced to practice prior to the effective date of the applied reference, U.S. Patent No. 6,555,544 ("the '544 patent"). Applicants file herewith a declaration from each inventor that provides the requisite showing of facts under 37 C.F.R. § 1.131. For at least this reason, Applicants respectfully submit that none of the rejections can properly be maintained, and that the present application is in condition for allowance.

Claim Rejections

The Examiner has rejected claims 1, 2, 5, 6, 10-13, 15-17, 20-22, 24, 29, and 31-33 under 35 U.S.C. § 102(e) as being anticipated by the '544 patent. The Examiner has also made the following rejections under 35 U.S.C. § 103(a) based on the '544 patent: claims 1-7, 10-17, 19-22, 24, and 29-34 unpatentable over the '544 patent; claims 1-7, 10-17, 22, 24, and 29-34 unpatentable over the '544 patent in view of U.S. Patent No. 5,627,158; claims 8 and 9 unpatentable over the '544 patent in view of U.S. Patent No. 5,486,362; and claims 18, 23, and 25-28 unpatentable over the '544 patent in view of WO 95/13799. Accordingly, each rejection is based in whole or in significant part on the '544 patent.

The Examiner correctly notes that pre-AIPA 35 U.S.C. § 102(e) applies to the '544 patent. Accordingly, the § 102(e) date for the '544 patent is May 2, 2000, the date of completion of the requirements under 35 U.S.C. § 371(c)(1)(2) and (4). The above-captioned application has an effective filing date of May 25, 2000, claiming priority under 35 U.S.C. § 120 to Application No. 09/577,875, filed May 25, 2000. Accordingly, the critical date for statutory bars to the above-captioned application is May 25, 1999. The '544 patent notes that the corresponding PCT publication WO 99/25354 was published on May 27, 1999, which is **after** the critical date for the above-captioned application. Therefore, neither the '544 patent nor the corresponding PCT publication WO 99/25354 is a statutory bar to the above-captioned application, and both documents are subject to a declaration of prior invention under 37 C.F.R. § 1.131.

Declarations Under 37 C.F.R. § 1.131

Under 37 C.F.R. § 1.131, the inventors of the subject matter of rejected claims may submit an appropriate declaration to establish invention of the subject matter of the rejected claims prior to the effective date of the reference on which the rejection is based. The showing of facts “shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference.” 37 C.F.R. § 1.131(b). Enclosed are declarations under 37 C.F.R. § 1.131 from each inventor of the above-captioned application, J. Michael Ramstack, M. Gary I. Riley, Stephen E. Zale, Olufunmi L. Johnson, and Joyce M. Hotz, that provide a showing of facts sufficient to establish an actual reduction to practice prior to May 27, 1999, which is prior to the effective date of either the ‘544 patent or the corresponding PCT publication WO 99/25354.

Independent claims 1, 11, and 29, and the claims depending therefrom, are directed to methods whereby dry microparticles are mixed with an injection vehicle to form a first suspension, and the first suspension is mixed with a viscosity enhancing agent to form a second suspension, the viscosity of the fluid phase of the second suspension being in the range of about 20 cp to about 600 cp at 20°C so that the second suspension can be injected using a needle of medically acceptable size, *e.g.*, 18-22 gauge. As explained in paragraphs 2-5 of the declarations filed herewith, the methods of claims 1, 11, 29, and at least claims 2, 3, 5, 6, 8, 10, 12, and 30-32 depending therefrom, were completed in the United States prior to May 27, 1999.

In particular, as explained in paragraph 3, Exhibit A describes a two step reconstitution experiment whereby microparticles having a polymeric binder were first mixed with an injection vehicle having a viscosity of about 53 cp to suspend the microparticles, and then a viscosity enhancing agent was added to increase the viscosity. The suspension was injected through a 22 gauge needle with no failures. As explained in paragraph 4, Exhibit B describes a study whereby microparticles were suspended in a 3% CMC (sodium carboxymethyl cellulose) injection vehicle. The suspension was then mixed in a syringe with increasing amounts of 10% CMC injection vehicle, the viscosity of which ranged from about 53 cp to greater than 1000 cp, depending upon the ratio of the 3% and 10% injection vehicles. Injectability of the suspensions was evaluated using a 22 gauge needle. Three replicates were

run for each viscosity with each injection rated as a success (+) or a failure (-). As can be seen from page 2 of Exhibit B, of the thirty injectability tests, 25 were a success.

Independent claim 13, and the claims depending therefrom, are directed to a method whereby dry microparticles are mixed with an injection vehicle to form a suspension, the viscosity of the suspension is changed to be in the range of from about 20 cp to about 600 cp at 20°C, the suspension is withdrawn into a syringe and injected through a needle ranging in diameter from 18-22 gauge. As explained in paragraphs 4-5 of the declarations filed herewith, the method of claims 13, and at least claims 15-17 depending therefrom, were completed in the United States prior to May 27, 1999.

In particular, as explained in paragraph 4, Exhibit B describes a study whereby microparticles were suspended in a 3% CMC (sodium carboxymethyl cellulose) injection vehicle. The suspension was then mixed in a syringe with increasing amounts of 10% CMC injection vehicle, the viscosity of which ranged from about 53 cp to greater than 1000 cp, depending upon the ratio of the 3% and 10% injection vehicles. Injectability of the suspensions was evaluated using a 22 gauge needle. Three replicates were run for each viscosity with each injection rated as a success (+) or a failure (-). As can be seen from page 2 of Exhibit B, of the thirty injectability tests, 25 were a success.

Independent claims 18 and 33, and the claims depending therefrom, are directed to methods whereby microparticles having a polymeric binder are suspended in an injection vehicle to form a suspension, the viscosity of the fluid phase of the suspension being in the range of about 20 cp to about 600 cp at 20°C, the viscosity of the fluid phase of the suspension providing injectability of the composition through a needle of medically acceptable size, *e.g.*, 18-22 gauge. As explained in paragraphs 6-9 of the declarations filed herewith, the methods of claims 18 and 33, and claims 19-28 and 34 depending therefrom, were completed in the United States prior to May 27, 1999.

In particular, as explained in paragraphs 6 and 7 of the attached declarations, Exhibit C is a copy of a draft report of a study carried out to determine the effect of particle size, injection vehicle viscosity and injection site on the injectability of risperidone microspheres in pigs. The results reported in tables 2 and 3 of Exhibit C are reflected in Tables 2 and 3 of

“Example 2 - Pig Study” of the above-captioned application. As explained in paragraphs 8 and 9 of the attached declarations, Exhibit D is a copy of a Development Report on the effect of vehicle viscosity on injectability of RISPERDAL® depot (microparticles having a poly(d,l-lactide-co-glycolide) polymeric binder and the active agent risperidone). The results reported in tables 2 and 3 of Exhibit D are reflected in Tables 4 and 5 of “Example 3 - Sheep Study” of the above-captioned application. Exhibits C and D demonstrate that a higher vehicle viscosity resulted in fewer injection failures, and that an injection vehicle viscosity of at least about 20 cp is necessary for successful and medically acceptable injectability rates. The experiments of Exhibit D were conducted using high suspension concentration (greater than about 100 mg/ml), and a small needle gauge size (22 gauge). At viscosities of less than or equal to about 11 cp, injectability failures increased significantly.

Applicants respectfully submit that the attached declarations and exhibits establish completion of the claimed invention in this country before May 27, 1999, *i.e.*, before the effective date of both the ‘544 patent and the corresponding PCT publication WO 99/25354. Applicants respectfully submit that the attached declarations provide a sufficient showing fully commensurate with rejected claims 1-34, and that any differences between the claimed invention and the attached declarations and exhibits would have been obvious to one of ordinary skill in the art, in view of the attached declarations and exhibits, prior to May 27, 1999. M.P.E.P. § 715.02. Therefore, under 37 C.F.R. § 1.131, the ‘544 patent and the corresponding PCT publication WO 99/25354 have been removed as a reference with respect to the above-captioned application. Because all rejections made in the outstanding Office Action are based in whole or in significant part on the ‘544 patent, all rejections have been rendered moot.

Applicants’ submission of the attached declarations to remove the ‘544 patent as a reference should not be construed as an admission of the propriety of the Examiner’s rejections based upon the ‘544 patent. Applicants do not concede that the claimed invention is disclosed in or suggested by the ‘544 patent. Applicants submit the attached declarations to facilitate and expedite prosecution of the above-captioned application.

CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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